

TOSHIBA

No. 2H260-300EN

**ON-SITE MODIFICATION MANUAL
FOR
SYSTEM SOFTWARE V4.40*R004
FOR TOSHIBA SCANNER**

Aquilion ONE TSX-301A
Aquilion TSX-301B
(2H260-300EN)

TOSHIBA MEDICAL SYSTEMS CORPORATION

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REVISION RECORD

Safety Precautions

1. Meaning of Signal Words

In this manual, the signal words **DANGER**, **WARNING**, and **CAUTION** are used to indicate safety and other important instructions. The signal words and their meanings are defined as follows. Please understand their meanings clearly before reading this manual.

Signal word	Meaning
⚠DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
⚠WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in property damage.

In addition to the above, the signal word **NOTE** is used to indicate other important information.

NOTE	Indicates reference information that enables more efficient use of the equipment.
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CONTENTS

	Page
Safety Precautions -----	4
1. OUTLINE -----	6
2. APPLICABLE MODELS-----	6
3. TIME REQUIRED-----	6
4. SUPPLIED PARTS-----	6
4.1 For Aquilion ONE -----	6
4.2 For Aquilion -----	7
5. PREPARATION-----	7
6. INSTALLATION PROCEDURES -----	8
6.1 Backing Up the Site-Specific Information -----	8
6.1.1 When version upgrade is performed from V4.30 -----	8
6.1.2 When version upgrade is performed from V4.40*R000, V4.40*R001, V4.40*R002, or V4.40*R003 -----	11
6.2 Installation -----	13
6.2.1 Outline -----	13
6.2.2 Installing the system software-----	13
6.2.3 Initializing the system-----	34
6.2.4 Operational checks -----	46
6.2.5 Restoring and Setting the site-specific information -----	46
6.2.6 Operational checks -----	51
7. APPENDIX -----	52
7.1 List of Newly Added Items -----	52
7.2 List of Improved Items -----	52
7.3 Items Related to Image Quality-----	55
7.4 Device IDs of the Image Disks Used in the PC BOX for Aquilion ONE Systems -----	55
7.4.1 Outline -----	55
7.4.2 Replacement procedure for the image disk-----	56

1. OUTLINE

This manual describes the procedures for installing system software V4.40*R004 in Toshiba scanner Aquilion ONE systems (TSX-301A) and Toshiba scanner Aquilion systems (TSX-301B).

2. APPLICABLE MODELS

Aquilion ONE systems (TSX-301A)

Aquilion systems (TSX-301B)

3. TIME REQUIRED

4.0 H for 1 person

4. SUPPLIED PARTS

4.1 For Aquilion ONE

Part name		Part No. or document No.	Quantity
System software	BASE V6.20*R002 (DVD-R)	SSDX76-01694	1
	Application V4.40*R004 (DVD-R)	SSDX76-01727	1
Operation manual (Basic Volume)		2B201-415EN	1
Operation manual (Quick Reference Volume)		2B201-416EN	1
Operation manual (Scan Volume)		2B201-417EN	1
Operation manual (IMAGE PROCESSING VOLUME)		2B201-418EN	1
Operation manual (NEURO PACKAGE)		2B260-336EN	1
Operation manual (FlyThrough)		2B260-348EN	1
Operation manual (DICOM GRayscale SOFTCOPY PRESENTATION STATE STORAGE)		2B260-347EN	1
Operation manual (ECG-gating system)		2B280-250EN	1
Service manual (X-ray system/data acquisition section/data transmission unit/console/power distributor)		2D201-126EN	1
Service manual (Software)		2D260-086EN	1
On-site modification manual (this manual)		2H260-300EN	1

4.2 For Aquilion

Part name		Part No. or document No.	Quantity
System software	BASE V6.20*R002 (DVD-R)	SSDX76-01694	1
	Application V4.40*R004 (DVD-R)	SSDX76-01727	1
Operation manual (Basic Volume)		2B201-450EN	1
Operation manual (Quick Reference Volume)		2B201-451EN	1
Operation manual (Scan Volume)		2B201-452EN	1
Operation manual (IMAGE PROCESSING VOLUME)		2B201-453EN	1
Operation manual (NEURO PACKAGE)		2B260-336EN	1
Operation manual (FlyThrough)		2B260-348EN	1
Operation manual (DICOM GRayscale SOFTCOPY PRESENTATION STATE STORAGE)		2B260-347EN	1
Operation manual (ECG-gating system)		2B280-250EN	1
Service manual (X-ray system/data acquisition section/data transmission unit/console/power distributor)		2D201-148EN	1
Service manual (Software)		2D260-089EN	1
On-site modification manual (this manual)		2H260-300EN	1

5. PREPARATION

Before performing installation, prepare the following tools etc.

(1) Tools required

Standard tools (screwdrivers etc.)

(2) Others

- Software licenses
- Backup FD, DVD-RAM

6. INSTALLATION PROCEDURES

NOTE: Check the system software version displayed at system start-up.

In order to install system software V4.40*R004, the currently installed system software version must be V4.30*R003 or later. If the current system software version is V4.20, V4.10, or V4.00, the system software must first be upgraded to V4.30*R003 or later.

6.1 Backing Up the Site-Specific Information

Before starting installation, back up the site-specific information by following the procedures described in the software service manual. Note the following points during installation work.

6.1.1 When version upgrade is performed from V4.30

6.1.1.1 Image data and raw data

Image data and raw data are deleted by version upgrade.

6.1.1.2 Information for the server PC in the REC BOX

Start up Explorer and move to the following folder.

x:/ct/KBProj/develop/etc/scan/firmware/BIR/CA/RTM

Back up "HWINV.txt" on the service PC. If this information is not restored after the system software version has been upgraded, the RTM does not start.

6.1.1.3 Saving the site-specific information using the backup tool

(1) In this version, the sort conditions cannot be restored using the backup tool.

- The sort setting conditions used for displaying the directories of external media (such as a DVD-RAM) and the network connection destination cannot be restored. Display the image directory of the DVD-RAM and then open the sort setting interactive window for the hierarchical structures of studies and images in order to write down the settings.
- If the default sort condition file (a file that is located in the directory under x:/toshiba/system_data/file_utility/sortkey_data such as "sys_images.CT" and "sys_studies") in the image directory (system image disk) has been directly edited, the changes in the settings cannot be restored. Back up the edited file individually and write down the changes in the settings. If the corresponding file is not edited directly, it is not necessary to do anything.

(2) In a similar way, information related to NEMA to DICOM conversion cannot be restored.

If the setting file for NEMA to DICOM conversion (a file that is located in the directory under x: /toshiba/program_data/etc/dicom/NEMAtoDICOM such as "NEMAtoDICOM.CT") has been directly edited, the changes in the settings cannot be restored. Back up the edited file individually and write down changes to the settings. If the corresponding file is not edited directly, it is not necessary to do anything.

(3) Write down the settings for ①Station.

If the settings have been edited, select [Utility] → [Engineering] → [(i)Station Detail Setting] and write down the changes to the settings.

(4) Record the Detail Parameter Tag Info settings.

Since items are added by version upgrade, the data cannot be restored. Therefore, record the current screen settings by saving screen capture images etc.

The settings can be confirmed by selecting [Utility] → [eXam Plan] → [Customize] → [Edit Main].

(5) The data sets that can be restored using the backup tool are listed below.

- : Must be saved and must be restored after installation
- : Must be saved but must not be restored after installation
- : Need not be saved/Cannot be saved

	Scan system	Image processing system
1 Exam Plan	●	-
2 Sure IQ	●	-
3 Calibration Data	●	-
4 Filter Coefficients	●	●
5 Preset Default Data	●	●
6 Options for Scan Planning	●	-

		Scan system	Image processing system
7	Error Log	—	—
8	Common Data	○	○
9	Options for Filming	●	●
10	On-line Settings	●	●
11	Left/Right Alignment Values	●	—
12	Voice	●	—
13	Slice Counter	●	—
14	Options for Scano/CT	●	●
15	Detail Parameter Tag Info	—	—
16	Examination Scheduler	●	●
17	Examination List	●	—
18	Serkey Table	○	○
19	Eye catch	●	—
20	Optionkey Info	●	●
21	Option for Display	●	●
22	InnerVision	●	●
23	MPR Pref	●	●
24	ROI Calc Pref	●	●
25	System Setup Utility (User's)	●	●
26	System Setup Utility (Hospital Name)	●	●
27	Study No	●	○
28	Mouse	●	●
29	DICOM Picture Output Tag	—	—
30	Dynamic-Study	—	●
31	Xe-Study	—	●
32	Function Key	●	●
33	Account	●	●
34	Item File	○	○
35	3D Page Preset	—	●
36	Summary Setting	●	●
37	NEW CBP study	—	●
38	Native CFA Preset	—	●
39	Native PlaqueView	—	●
40	Cardio Scoring	—	●
41	Warm Up	○	—

6.1.2 When version upgrade is performed from V4.40*R000, V4.40*R001, V4.40*R002, or V4.40*R003

6.1.2.1 Image data and raw data

Image data and raw data can be used even after version upgrade.

6.1.2.2 Information for the server PC in the REC BOX

Start up Explorer and move to the following folder.

x:/ct/KBProj/develop/etc/scan/firmware/BIR/CA/RTM

Back up "HWINV.txt" on the service PC. If this information is not restored after the system software version has been upgraded, the RTM does not start.

6.1.2.3 Saving the site-specific information using the backup tool

(1) Write down the settings for ①Station.

If the settings have been edited, select [Utility] → [Engineering] → [(i)Station Detail Setting] and write down the changes to the settings.

(2) The data sets that can be restored using the backup tool are listed below.

- : Must be saved and must be restored after installation
- : Must be saved but must not be restored after installation
- : Need not be saved/Cannot be saved

		Scan system	Image processing system
1	Exam Plan	●	-
2	Sure IQ	●	-
3	Calibration Data	●	-
4	Filter Coefficients	●	●
5	Preset Default Data	●	●
6	Options for Scan Planning	●	-
7	Error Log	-	-
8	Common Data	○	○
9	Options for Filming	●	●
10	On-line Settings	●	●
11	Left/Right Alignment Values	●	-
12	Voice	●	-
13	Slice Counter	●	-
14	Options for Scano/CT	●	●
15	Detail Parameter Tag Info	●	●

		Scan system	Image processing system
16	Examination Scheduler	●	●
17	Examination List	●	—
18	Serkey Table	●	●
19	Eye catch	●	—
20	Optionkey Info	●	●
21	Option for Display	●	●
22	InnerVision	●	●
23	MPR Pref	●	●
24	ROI Calc Pref	●	●
25	System Setup Utility (User's)	●	●
26	System Setup Utility (Hospital Name)	●	●
27	Study No	●	○
28	Mouse	●	●
29	DICOM Picture Output Tag	—	—
30	Dynamic-Study	—	●
31	Xe-Study	—	●
32	Function Key	●	●
33	Account	●	●
34	Item File	○	○
35	3D Page Preset	—	●
36	Summary Setting	●	●
37	NEW CBP study	—	●
38	Native CFA Preset	—	●
39	Native PlaqueView	—	●
40	Cardio Scoring	—	●
41	Warm Up	○	—

6.2 Installation

6.2.1 Outline

- (1) First, start installation at the D-con.

With regard to the S-con, press the [Del] key after the system power is turned ON to suspend system startup.

- (2) Install the Base CD. When the procedure reaches the IP address setting described in (17) of subsection 6.2.3, start installation at the S-con.

6.2.2 Installing the system software

- (1) Execute CT Console SYSTEM Install. The procedure is described below.

(a) After turning ON the system power, press the [Del] key.

(b) System startup is suspended and the BIOS setting window is displayed.

(c) Place the supplied DVD (No.1) in the drive.

Press the [Control], [Alt], and [Del] keys simultaneously to reboot the system.

(d) After the BIOS has started up, the following message is displayed for several seconds.

Press any key to boot from CD or DVD...

(* Note that the above message may not be displayed and the system may boot from the DVD-R.)

Press the [Enter] key to boot the system from the DVD-R.

(* Otherwise, the system boots from the HDD.)

After the system has booted from the DVD-R, the following window is displayed.



Figure 6.2.2-1

- (2) After booting from the DVD-R is completed, the system stops at the following installation confirmation display.

CT Console SYSTEM Install
Press any key to continue...

When the [Enter] key is pressed, the following message is displayed.

Select 1: System 2: Image 3: SAS bios update
Select Install Disk:

Enter "1" for system disk installation or "2" for image disk installation.

If "1" is entered, the system proceeds to step (3) for system disk installation. If "2" is entered, the system proceeds to step (5) for image disk installation.

* Note that if image disk installation is selected, image data and raw data are deleted.

- (3) The system then stops at the following display.

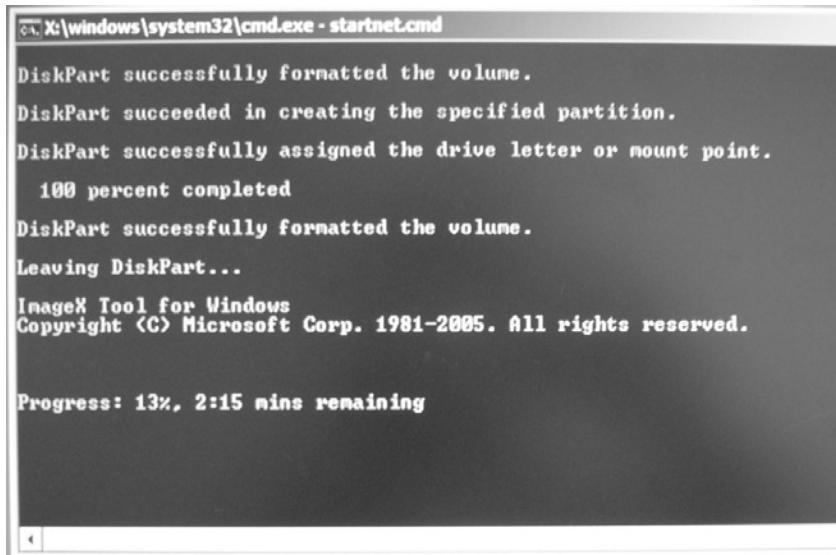
Install System Disk
Press any key to continue...

NOTE: When any key is pressed here, the system proceeds to system disk extraction.

To cancel processing, remove the DVD-R disk and press the PC-BOX reset switch to reboot the system.

- (4) Press the [Enter] key to execute system disk extraction processing.

The following message is displayed during system disk extraction.



```
X:\windows\system32\cmd.exe - startnet.cmd
DiskPart successfully formatted the volume.
DiskPart succeeded in creating the specified partition.
DiskPart successfully assigned the drive letter or mount point.
    100 percent completed
DiskPart successfully formatted the volume.
Leaving DiskPart...
ImageX Tool for Windows
Copyright (C) Microsoft Corp. 1981-2005. All rights reserved.

Progress: 13%, 2:15 mins remaining
```

Figure 6.2.2-2

Extraction is completed in approximately 3 minutes.

- (5) When system disk extraction processing is completed, the system stops with the following display.

Next Process Image Disk install
Select Next Process Start or Break
Select Process Start (S) or Break (B)

- (a) When version upgrade is performed from V4.30, enter "S" [Enter] to proceed to image disk extraction processing.
(b) When version upgrade is performed from V4.40*R000, V4.40*R001, V4.40*R002, or V4.40*R003, enter "B" [Enter] to cancel image disk extraction processing.

The system shuts down automatically and proceeds to step (7).

- (6) Execute image disk extraction processing.

The following conformation window is displayed.

Install Image Disk
Press any key to continue...

Press any key to execute image disk extraction processing.

Extraction is completed in approximately 1 minute. When image disk extraction processing is completed, the system shuts down automatically.

- (7) When system shutdown is completed, the following window is displayed.

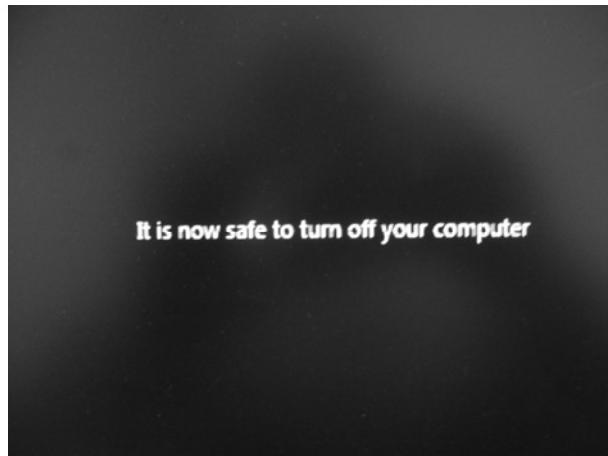


Figure 6.2.2-3

Remove the DVD-R from the drive and press the reset switch of the PC-BOX to reboot the system.

If the IP address of the Scan console is set to the default (192.168.0.1), for example after software loading at the Scan console, both consoles may show an IP address conflict error message when the software is loaded at the Display console. The IP address is set to the default (192.168.0.1) immediately after the software loads at the Display console because the system is not yet configured and the same software is used for both computers. These error messages can be ignored.*

- * As the MKStool software installation requires the network to be physically connected, the network between the two consoles should not be disconnected during software loading. Disconnecting the network may result in system operation becoming abnormal. For example, system configuration may be disabled.

The network being "physically connected" refers to each console being connected to each hub with network cables. (Connection between the console and hub is required. Connection between consoles is not supported.) If the network is not "physically connected", the system may become abnormal during software installation or software start-up.

- (8) After the system reboots, the Windows Setup window is displayed.

Click [Details...].

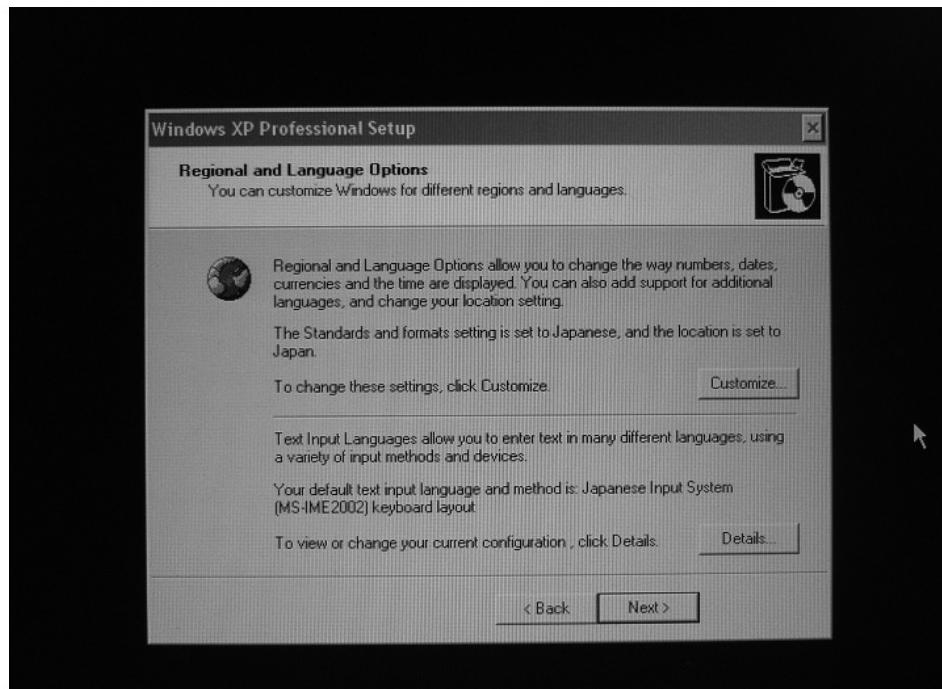


Figure 6.2.2-4

- (9) Set the default input language as follows.

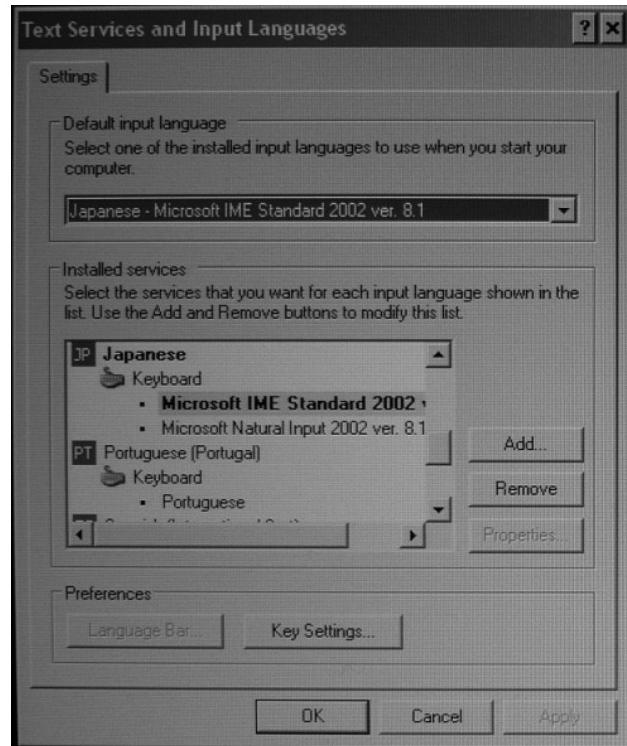


Figure 6.2.2-5

English (United States) - US

After setting is completed, click [Apply] to apply the settings to the system. To cancel the settings, click [Cancel].

- (10) The Windows Setup window is displayed again.

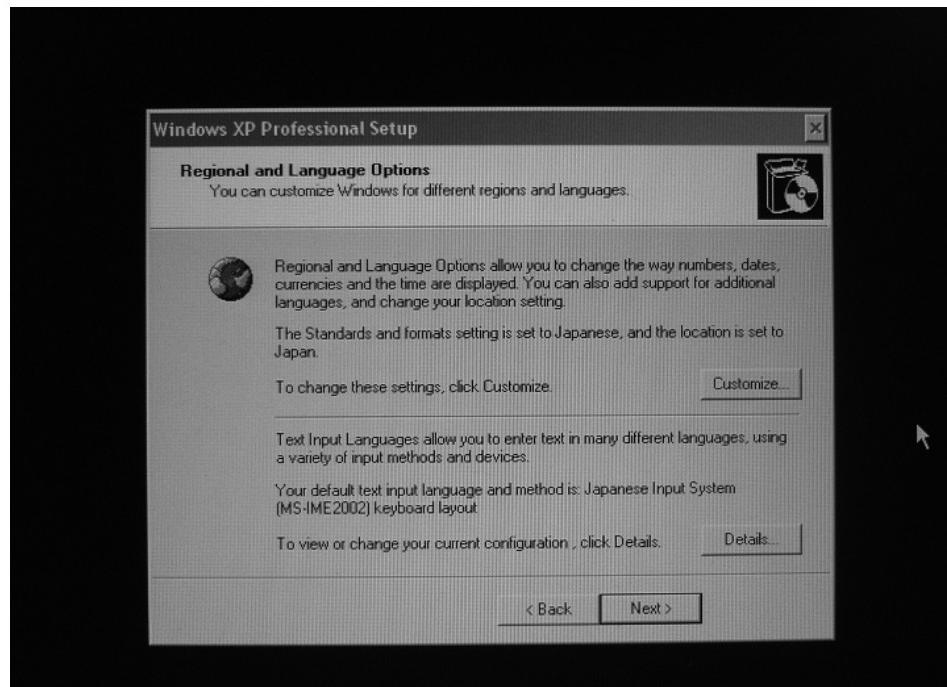


Figure 6.2.2-6

Click [Next>].

- (11) The following window is displayed and rebooting is started automatically.

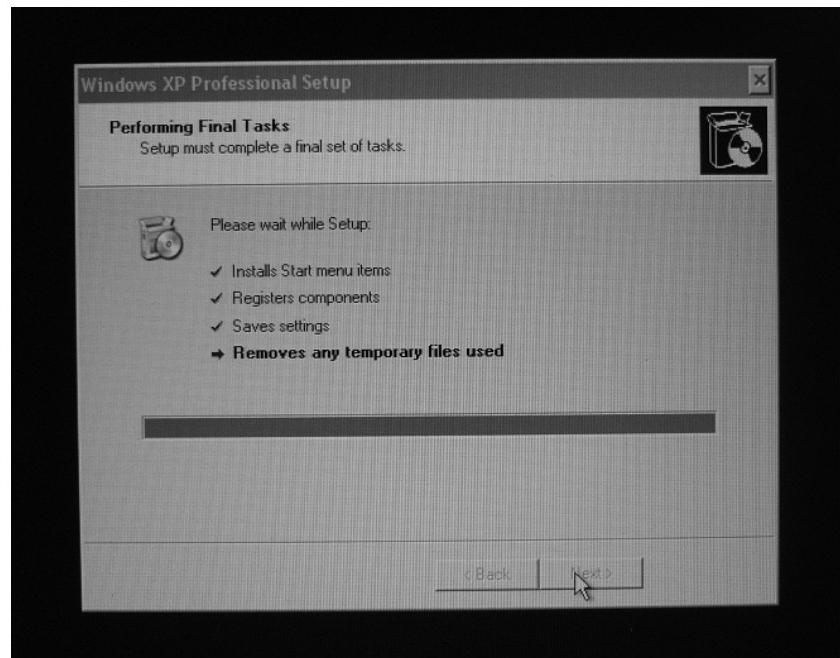


Figure 6.2.2-7

- (12) After the system reboots, the user is automatically logged in as Administrator.

- (13) After login is successful, disk partitioning is automatically performed and the system is rebooted.

The "wait 120 sec Restart" box appears and the system restarts.

NOTE: After login is completed, the following interactive window may be displayed.

Ignore the interactive window.

This interactive window is not displayed after step (20) "Installation of FC driver" described below.



- (14) After the system reboots again, the user is automatically logged in as Administrator.
- (15) After logging in, select [Start] → [ShutDown] → [Restart] to reboot the system.
- (16) After the system reboots again, Windows starts up and the login window is displayed.
Log in as "Administrator".
The password is "toshibact".

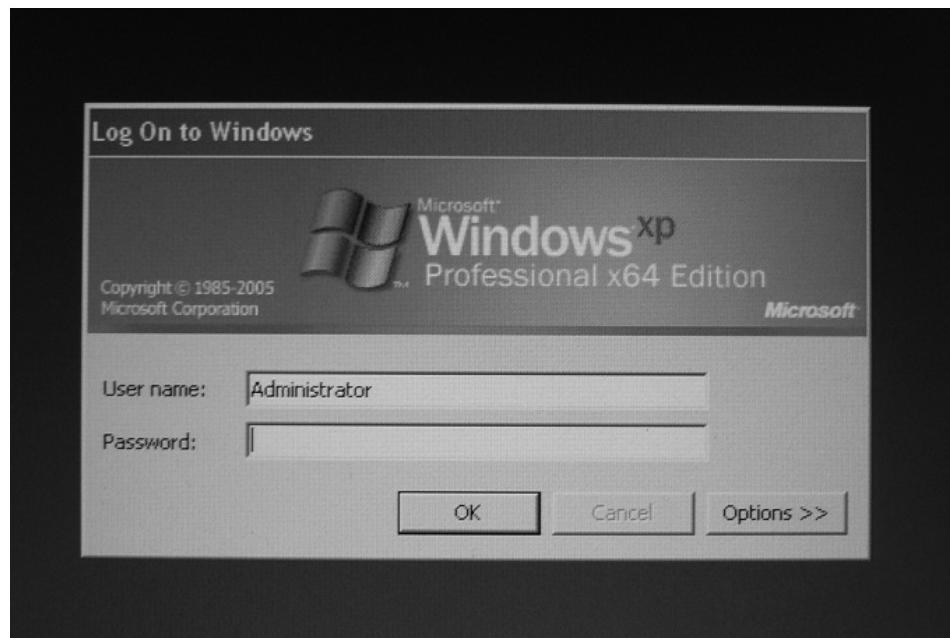


Figure 6.2.2-8

NOTE: When login is completed after rebooting the system, the following interactive window may be displayed.

This interactive window is not displayed after step (20) "Installation of FC driver" described later.



- (17) When the supplied DVD ("Application No. 2") is placed in the drive, installation of the CT application starts.

When the console window is displayed, select the Update install type and start installation of the application.

1. Full Install 2. Update Install
Input the Number #
1 [Enter]

- (18) Copy the hwtest_data (only for the S-console).

Start up Explorer and copy the hwtest_data folder in the DVD-R (Application No. 2) to the H drive.

* If the hwtest_data folder already exists in the H drive, delete the old hwtest_data folder and then copy the new hwtest_data folder.

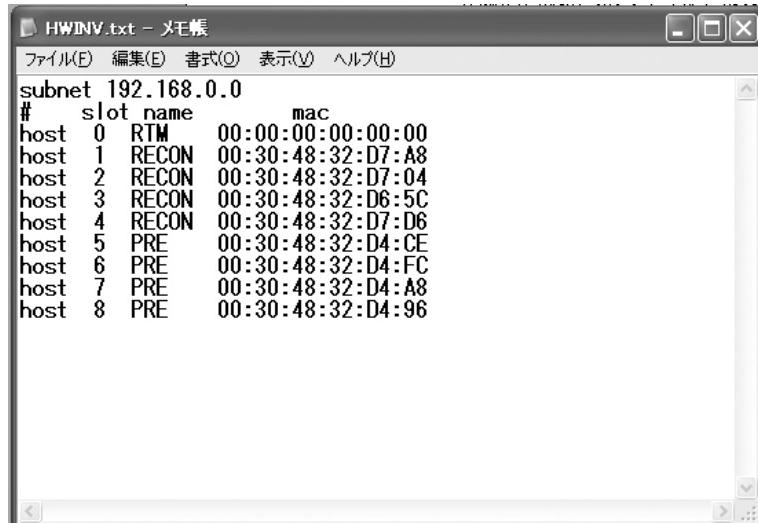
After installation is completed, remove the media from the drive.

- (19) Set the information for the server PC in the REC BOX (only for the S-console).

Start up Explorer and navigate to the following folder.

x:/ct/KBProj/develop/etc/scan/firmware/BIR/CA/RTM

Copy "HWINV.txt" backed up in subsection 6.1.2 to the above folder.



The screenshot shows a Windows Notepad window with the title bar 'HWINV.txt - ノート帳'. The menu bar includes 'ファイル(F)', '編集(E)', '書式(O)', '表示(V)', and 'ヘルプ(H)'. The main content area displays the following text:

```
subnet 192.168.0.0
# slot_name      mac
host 0 RTM      00:00:00:00:00:00
host 1 RECON    00:30:48:32:D7:A8
host 2 RECON    00:30:48:32:D7:04
host 3 RECON    00:30:48:32:D6:5C
host 4 RECON    00:30:48:32:D7:D6
host 5 PRE      00:30:48:32:D4:CE
host 6 PRE      00:30:48:32:D4:FC
host 7 PRE      00:30:48:32:D4:A8
host 8 PRE      00:30:48:32:D4:96
```

Figure 6.2.2-9 Example of HWINV.txt

(20) Installation of FC driver

Press the [Ctrl] and [ESC] keys simultaneously to display the start menu and then select [Run...]. Enter sh -L to open the terminal. When the terminal window is displayed, enter as follows.

```
$ cd x:/ct/KBProj/develop/etc/scan/firmware/BIR/CA/HOST/FC_Install [Enter]
$ ./FcReInst64.exe [Enter]
```

The following confirmation window is displayed. Click [Yes].



Figure 6.2.2-10

```
Using installation file
'X:\ct\KBProj\develop\etc\scan\firmware\BIR\CA\HOST\FC_Install\FCDriver.inf'
Not updating 'PCI\VEN_1077&DEV_2200&SUBSYS_00021077' ...
    No such device
Not updating 'PCI\VEN_1077&DEV_2300&SUBSYS_00091077' ...
    No such device
Not updating 'PCI\VEN_1077&DEV_2100' ...
    No such device
Not updating 'PCI\VEN_1077&DEV_2312&SUBSYS_01011077&REV_02' ...
    No such device
Not updating 'PCI\VEN_1077&DEV_2312&SUBSYS_01001077' ...
    No such device
Not updating 'PCI\VEN_1077&DEV_2422&SUBSYS_01331077' ...
    No such device
Successfully updated 'PCI\VEN_1077&DEV_2432&SUBSYS_01371077'
Not updating 'PCI\VEN_1077&DEV_2432&SUBSYS_01381077' ...
    No such device
$
```

- (21) Install ① Station resource and configurations files (only for the S-console).

Prepare the "I-Station Resource V1.20R001 No. 2" CD.

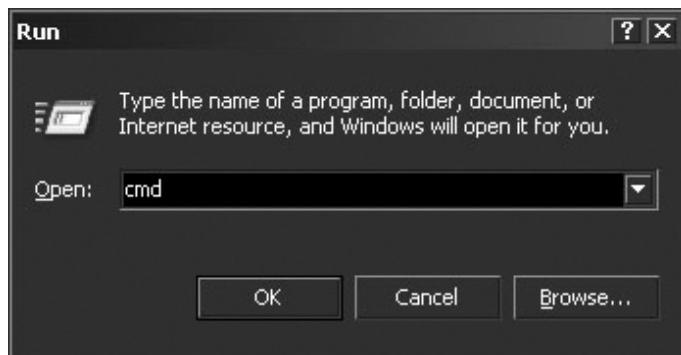
Release file protection.

Select the x:\ct\KBProj\develop\etc\scan\UserNavi folder from Explorer and open Properties by right-clicking the mouse. Remove a check mark from the Read Only check box and click [OK].

Place the iStation Resource CD in the DVD drive at the S-con.

Select "Run..." from the Windows start menu to display the command input window at the S-con.

Enter "cmd" in the input field and then click [OK].



The DOS window is opened and a prompt is displayed.

Enter the following commands in the DOS window and execute them.

>o:\\$EXTRACT.EXE /Y /E /L X:\ct\KBProj\develop\etc\scan\UserNavi o:\\$Config.cab[Enter]

A file is expanded in the X:\ct\KBProj\develop\etc\scan\UserNavi\Config directory.



Enter the following commands in the DOS window and execute them.

**>o:¥EXTRACT.EXE /Y /E /L /X:¥ct¥KBProj¥develop¥etc¥scan¥UserNavi
o:¥Resource.cab[Enter]**

A file is expanded in the X:¥ct¥KBProj¥develop¥etc¥scan¥UserNavi¥Resource directory.

- (22) Set automatic login users.

Select [Start] → [Run]. Enter "control userpasswords2" and click [OK].

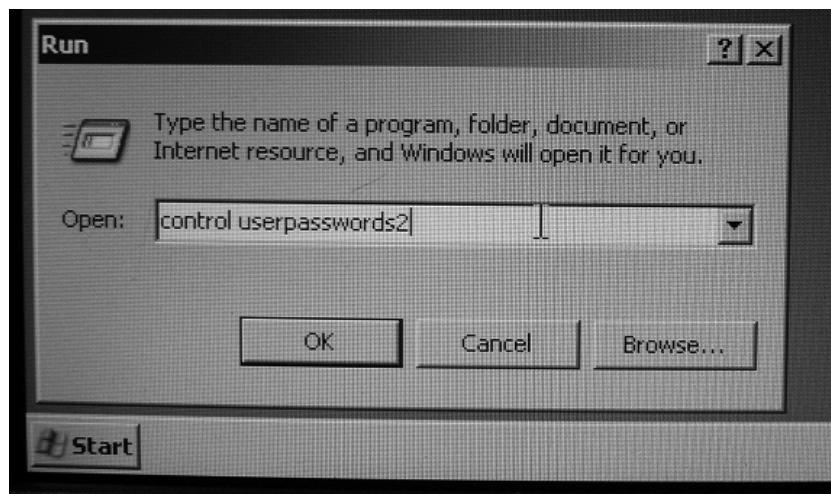


Figure 6.2.2-11

The following window is displayed.



Figure 6.2.2-12

Select "kingbird" for User Name.



Figure 6.2.2-13

Remove the check mark for 'Users must enter a user name and password to use this computer'. Click [Apply].



Figure 6.2.2-14

In response to the request for a password, enter "kingbird" in the 'Password' and 'Confirm Password' fields. Click [OK].

- (23) After the setting has been completed, select [Start] → [ShutDown] → [Restart] to reboot Windows. After rebooting, the system is automatically logged in as kingbird and the following window is displayed. At this time, do not perform interactive operations such as [Change System].



Figure 6.2.2-15

- (24) While the system is being logged in as kingbird, perform settings for Regional and Language Options.

Press the [Ctrl] and [ESC] keys simultaneously to display the Start menu and then select Control Panel.

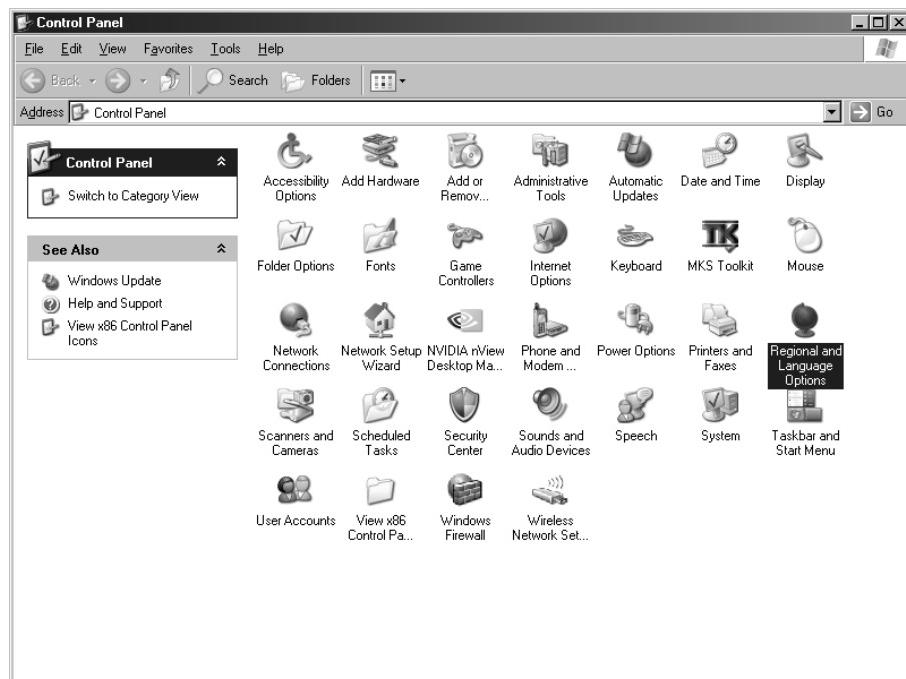


Figure 6.2.2-16

Double-click the Regional and Language Options icon.

The Regional and Language Options window is displayed.

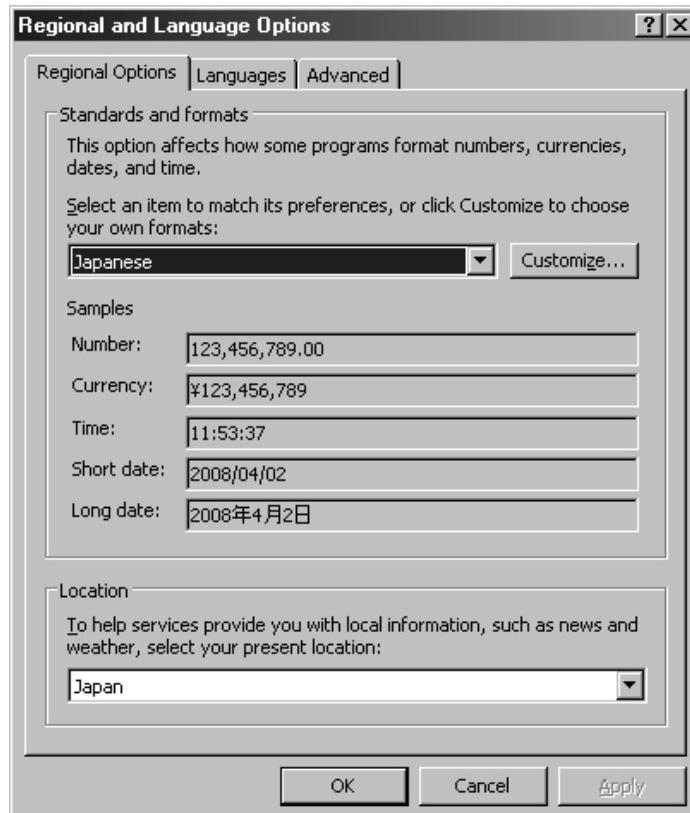


Figure 6.2.2-17

<1> Regional Options setting

Select "English (United States)" and then click the [Apply] button.

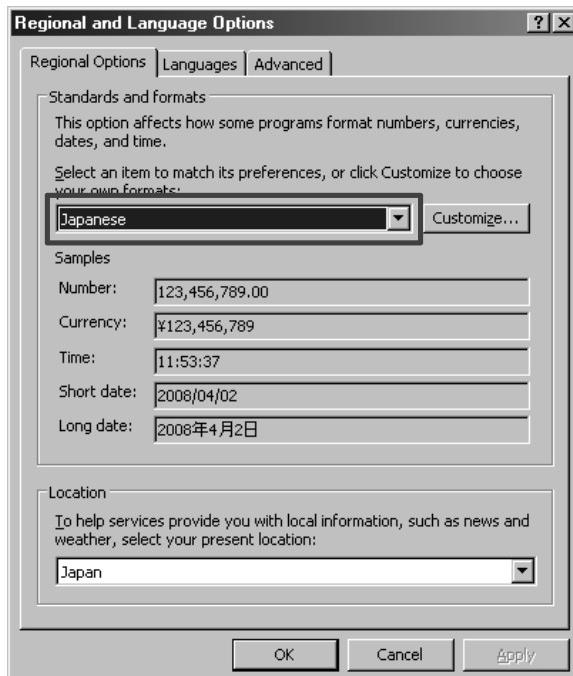


Figure 6.2.2-18

<2> Language setting

Click the Languages tab.

Click the [Details] button in the Text services and input languages area.



Figure 6.2.2-19

The Text Services and Input Languages window is displayed.

Set the default input language as follows.

English (United States) - US

After setting, click the [Apply] button.

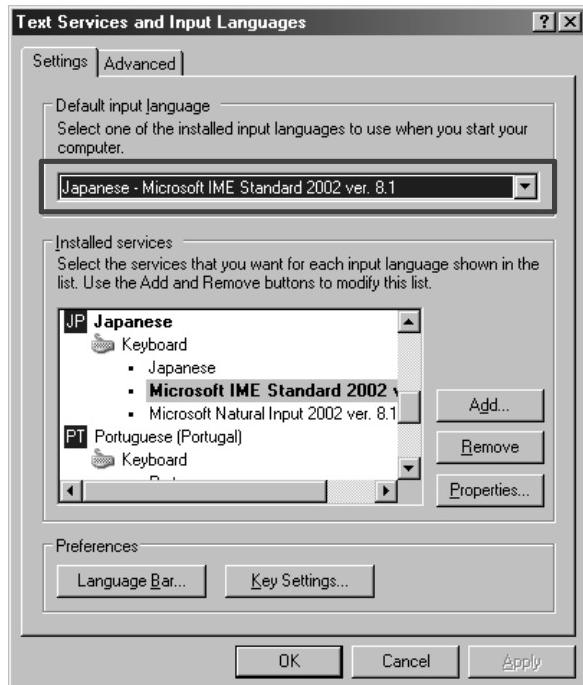


Figure 6.2.2-20

Then click the [Language Bar...] button in the Preferences area.

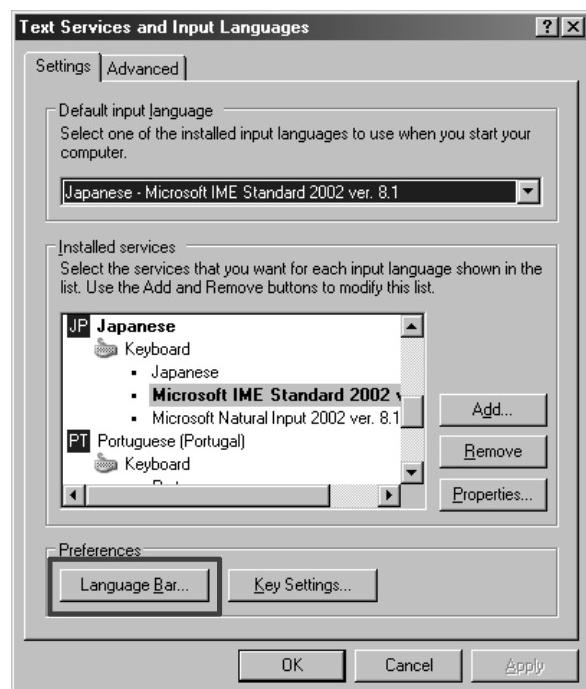


Figure 6.2.2-21

The Language Bar Settings window is displayed. Deselect all items and then click [OK].



Figure 6.2.2-22

Then click the [Key Settings...] button in the Preferences area.

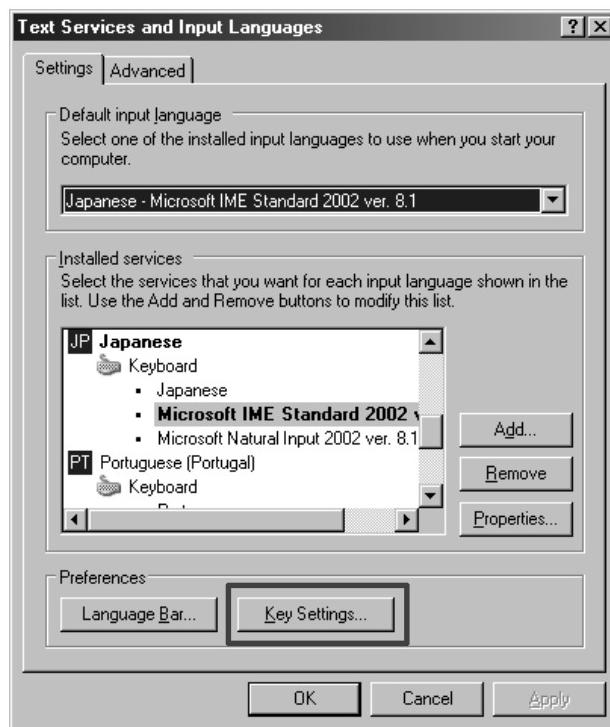


Figure 6.2.2-23

The Advanced Key Settings window is displayed. Click the [Change Key Sequence...] button.

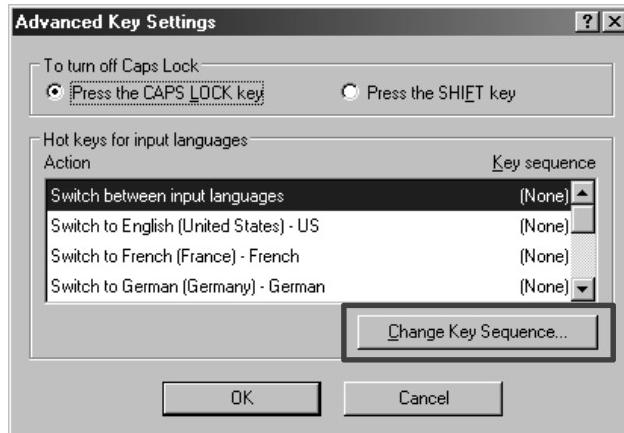


Figure 6.2.2-24

The Change Key Sequence window is displayed. Deselect all items for Switch input languages and Switch keyboard layouts and then click [OK].



Figure 6.2.2-25

The Advanced Key Settings window is redisplayed. Click [OK].

The Text Services and Input Languages window is redisplayed. Click [OK].

The Regional and Language Options window is redisplayed. Click [OK] to terminate it.

- (25) After settings have been completed, press the [Ctrl] and [ESC] keys simultaneously to display the Start menu and then select [ShutDown] → [ShutDown] to shut down the system.

After Windows has been terminated, turn OFF the power of the console.

6.2.3 Initializing the system

- (1) Turn ON the power of the console to start up the system again.

Confirm that the power of the (i) Station is turned ON.

- (2) Wait until the following interactive window is displayed.

Then, initialize the system by performing the following procedures.



Figure 6.2.3-1

- (3) Select "Change System" from the above window. The following interactive window is displayed.



Figure 6.2.3-2

- (4) Select "Service Engineer's" from the above window and then click [Exec]. The following interactive window is displayed.

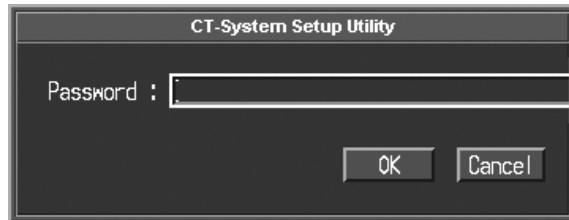


Figure 6.2.3-3

- (5) Enter the password in the above window.

The following interactive window is displayed.

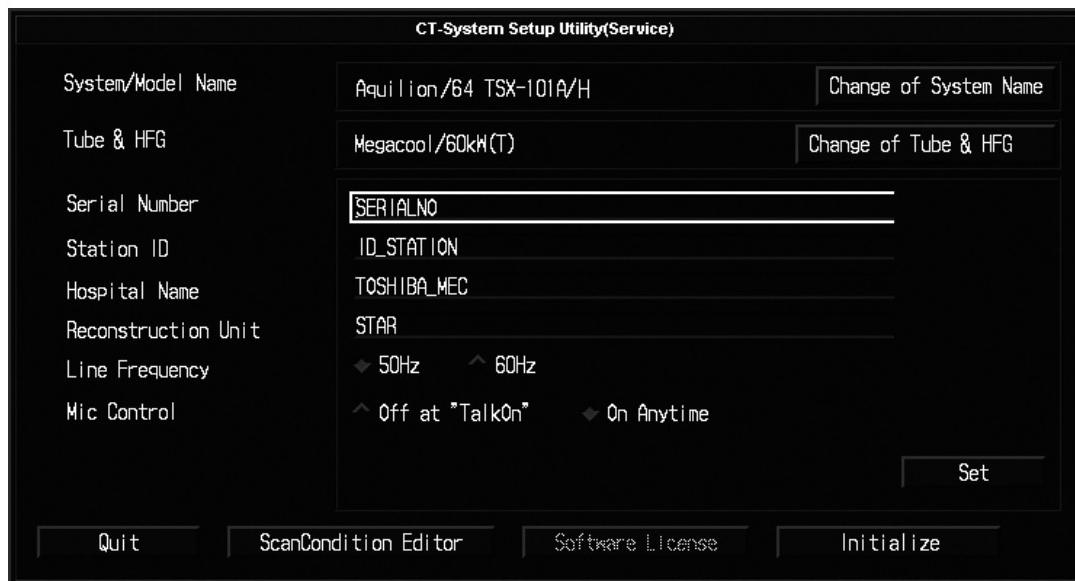


Figure 6.2.3-4

- (6) When [Change of System Name] of the "System/Model Name" column is selected, the following interactive window is displayed.



Figure 6.2.3-5

<For Aquilion ONE>

Place the license FD "Option Key (SCAN320ROW)" in the floppy disk drive, click [License] and then [Load license]. When reading of the license is completed, click [Quit] and remove the license FD. Select the system name from the pull-down menu and click [Set]. After [Set] has been clicked, click [Quit].

Scan monitor system : Aquilion ONE TSX-301A/2
 Image processing monitor system : Aquilion ONE (Sub) TSX-301A/2

<For Aquilion>

Select the system name from the pull-down menu and click [Set].
After [Set] has been clicked, click [Quit].

Scan system : Aquilion160 TSX-301B/1
Image processing system : Aquilion160 (Sub) TSX-301B/1

- (7) When [Change of Tube & HFG] in the "Tube & HFG" column is selected, the following interactive window is displayed.

Select the tube type (Tube&HFG) from the pull-down menu and click [Set].

After [Set] has been clicked, click [Quit].

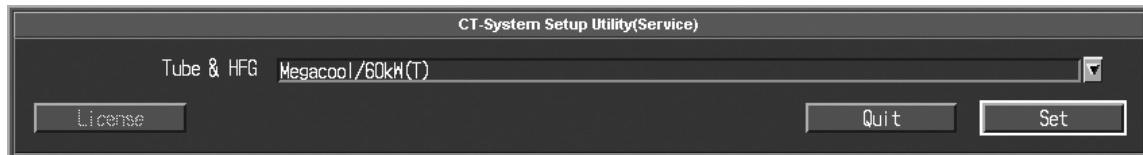


Figure 6.2.3-6

- (8) Set the other items.

Set the serial No., station ID, hospital name, and power frequency (line frequency), and leave the reconstruction unit set to STAR.

If the system language is set to English, the "Hospital Name (Japanese)" field can be left as is.

After setting has been completed, click [Set].

- (9) After [Set] operation is completed, click [Initialize] in the interactive window shown in figure 6.2.3-4.

The eXam Plans and calibration data are now initialized.

After initialization is completed, click [Quit]. (The system is designed so that the [Quit] button is disabled during initialization.)

The following interactive window is displayed.



Figure 6.2.3-7

- (10) Select "User's" from the interactive window shown in figure 6.2.3-7.

The following interactive window is displayed.

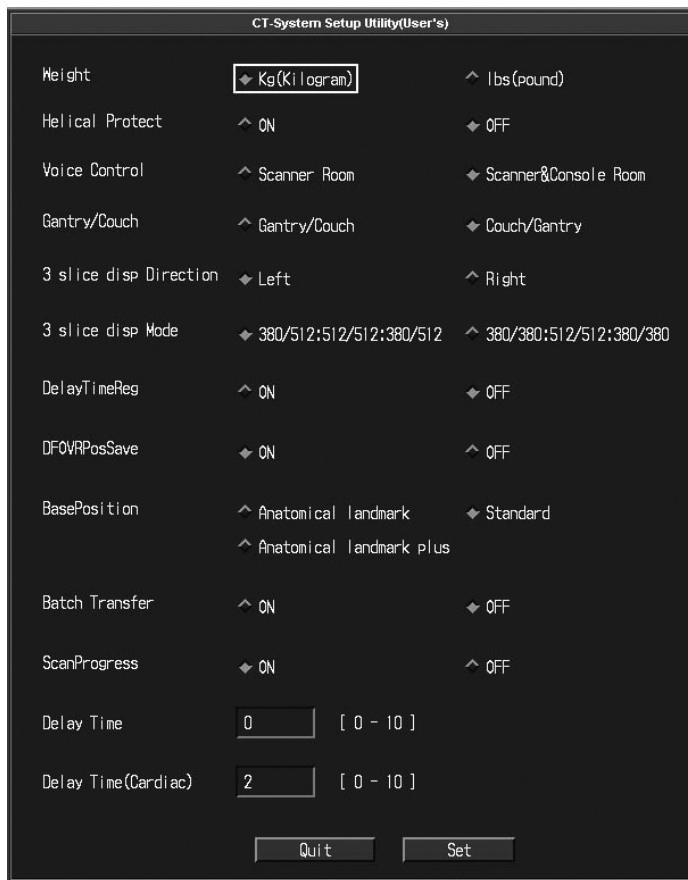


Figure 6.2.3-8

- (11) Change the settings as required and click [Set] to set the contents.

Click [Quit] in the interactive window shown in figure 6.2.3-8 to display the following interactive window.

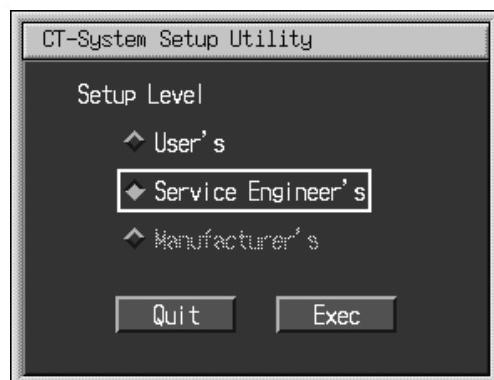


Figure 6.2.3-9

- (12) Click [Quit] in the interactive window shown in figure 6.2.3-9.

The following interactive window is displayed.



Figure 6.2.3-10

- (13) Select [Change Language] to switch between Japanese, English, and IR100.

When the following interactive window is displayed, select [English (en)] for English language display and [Japanese (ja)] for Japanese language display. After setting has been completed, select [Cancel].



Figure 6.2.3-11

(14) Special configuration setting

Use [Special Configuration] to set the following options as required.

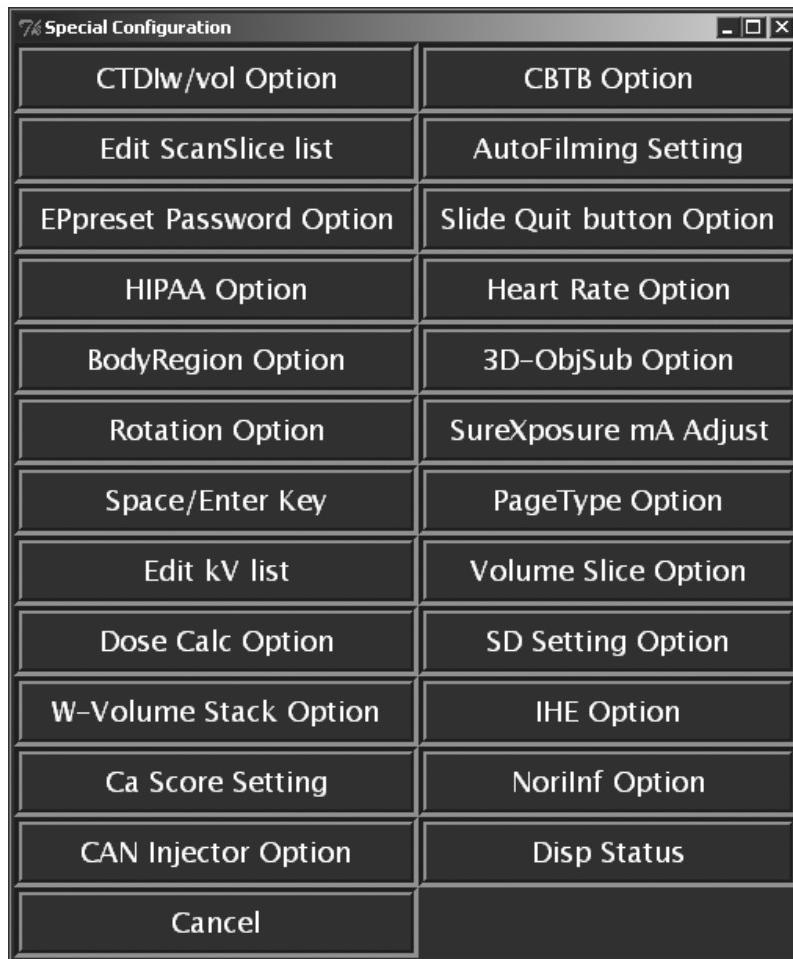


Figure 6.2.3-12

- <1> CTDIw/vol Option : Sets the dose display option (CTDIw/CTDIvol/OFF).
- <2> CBTB Option : Sets the couch type.
- <3> Edit ScanSlice list : Allows editing of the scan slice thickness to be made effective.
- <4> AutoFilming Setting : Sets whether S-con or D-con is used for auto filming.
- <5> EPreset Password Option : Sets the password option (on/off) for startup of the eExam Plan editing function.
- <6> Slide Quit button Option : Sets whether or not the Quit button in the mechanical control couch movement interactive window is enabled during scanning.
- <7> HIPAA Option : Sets HIPAA functions such as Logon/Logoff ON/OFF.
- <8> Heart Rate Option : Sets either HR or RR output for the related information for the ECG-gated reconstruction images.

- | | |
|----------------------------|---|
| <9> BodyRegion Option | : Sets whether the body region information set in the eXam Plan is automatically set to the body region in the related information. |
| <10> 3D-ObjSub Option | : Sets the subtraction processing option (ON/OFF) for segmentation in 3D processing. |
| <11> Rotation Option | : Sets display/non-display of the current number of rotations in the warm-up interactive window. |
| <12> SureXposure mA Adjust | : Sets the display interval for the mA sub lines for Sure Exposure 3D. |
| <13> Space/Enter Key | : Sets whether or not the Space key or the Enter key is enabled instead of the Confirm button in the Detailed parameters window, the OK button in the couch movement confirmation window, and the Helical Skip button displayed during scanning. The default setting is "disabled". |
| <14> PageType Option | : Changes the Autoview-m setting to the Autoview-s setting at the S-console. (Not used in the D-console.) |
| <15> Edit kV list | : Sets the type of tube voltage that can be selected during eXam Plan. |
| <16> Volume Slice Option | : This option enables thick image slice thickness to be selected for volume scan. |
| <17> Dose Calc Option | : Switches the dose display in Dose Guard between IEC standard and Extended. |
| <18> SD Setting Option | : Switches the setting interactive window of Sure Exposure 3D. When Easy is selected, the image thickness and the SD value for the preset are not displayed. |
| <19> W-Volume Stack Option | : The image save format for W-Volume scanning can be set to helical volume format. |
| <20> IHE Option | : Sets whether PGP or SplitCase is used for IHE option (COT-44A). |
| <21> Ca Score Setting | : Sets the phase and the threshold heart rate for Sure Cardio in ECG-gated scanning. |
| <22> NorlInf Option | : The function that automatically changes the detection rows in helical scanning with the short scan range is provided in order to reduce the exposure dose. This sets whether or not the function is ON and changes the threshold for switching ON or OFF the function. |
| <23> CAN Injector Option | : Sets the CAN Injector option (ON/OFF). |
| <24> Disp Status | : Displays the current settings for Special Config. |

- (15) For the scan system, select [RDD Setup] from the interactive window (figure 6.2.3-10). (This does not need to be performed for the image processing system.) The following interactive window is displayed.

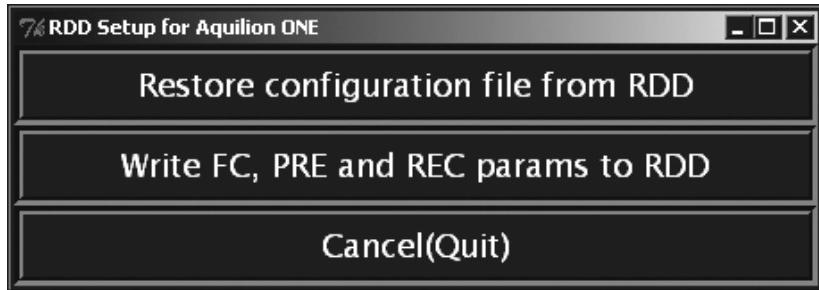


Figure 6.2.3-13

Select [Restore Configuration file from RDD]. Set the hardware RAID as an RDD. This process takes approximately 10 minutes.

When the processing is completed successfully, the following interactive window is displayed. Click [OK] in the displayed window.

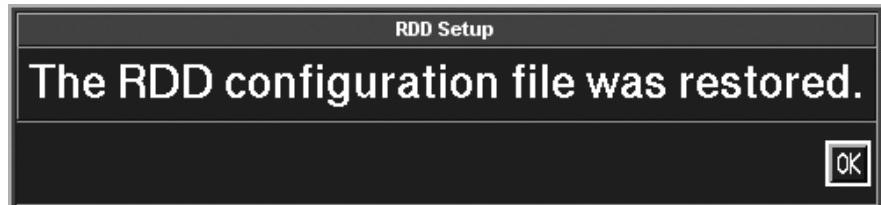


Figure 6.2.3-14

Then, select [Write FC, PRE and REC params to RDD]. This process takes approximately 10 minutes.

When writing of parameters is completed, the following window is displayed. Click [OK] in the displayed window.



Figure 6.2.3-15

NOTE: If setup of the RDD is terminated abnormally, the following interactive window is displayed.

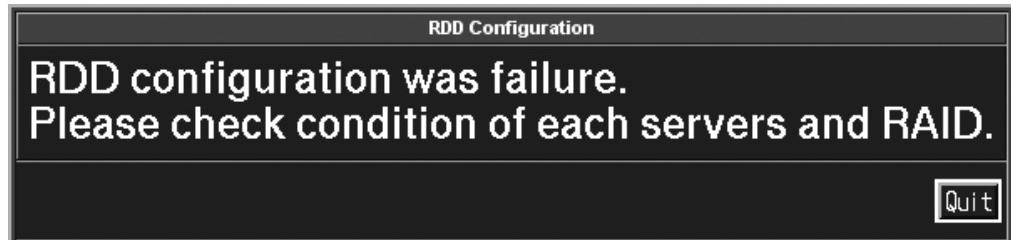


Figure 6.2.3-16

In this case, the interactive window is not closed even when [Quit] is clicked.

Reconfirm that the settings of the HWINV.txt file set in step (19) of subsection 6.2.2 are correct. Then reboot the system by following the procedures below and perform setup of the RDD again.

Press the [Ctrl] and [ESC] keys simultaneously to display the start menu and then select [Run...]. Enter sh -L to open the terminal and execute the following commands.

```
% cd x:/ [Enter]  
% chkconfig aquilion off [Enter]
```

Press the [Ctrl] and [ESC] keys simultaneously to display the start menu and then select [Shutdown].

Reboot the system after the system power has been turned OFF and perform step (15) again.

If setup of the RDD is completed normally, open the terminal window and execute the following commands. Then proceed to step (16).

```
% cd x:/ [Enter]  
% chkconfig aquilion on [Enter]
```

If setup of the RDD is terminated abnormally, check for an abnormality in the hardware.

- (16) Set the host name and IP address of the system.

In the following window, select "Change Computer Name".

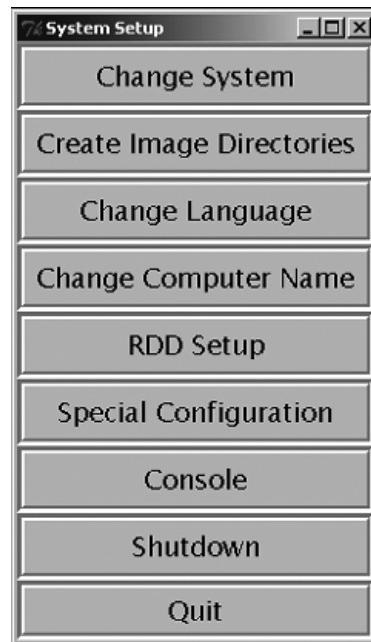


Figure 6.2.3-17

- (17) When the following confirmation window is displayed, enter the settings of the corresponding console.



Figure 6.2.3-18

- Network Card : Displays the network card used for network connection. Select "Intel 8255x-based Integrated Fast Ethernet".
- Computer : Enter the name of the system on the network.
- Host : HostType : Select either the scan console (S-Con) or the display console (D-Con).
- IP Address: Enter the IP addresses of the scan console (S-Con) and the display console (D-Con).
- Subnet Mask : Enter the subnet mask from the segment of the network configuration.
Decimal numbers must be used, and periods ('.') must be used as separators.
Example: 255.255.255.0
- DefaultGateway : Enter the IP address of the gateway unit of the network configuration.
Decimal numbers must be used, and periods ('.') must be used as separators.
Example: 0.0.0.0
- DHCP : Set the DHCP to "Disable".

After setting is completed, click [Update] to apply the settings.

After the settings are applied, a message asking whether the system should be rebooted is displayed.

Click [No] and then click [Exit] to return to the System Setup menu.

(The new settings become effective when the system is started up again.)

- (18) Click [Quit] in the following interactive window.

This shuts down the system automatically.

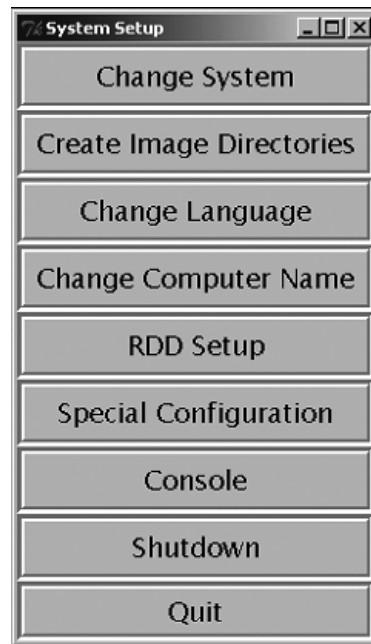


Figure 6.2.3-19

- (19) After system shutdown is completed, turn OFF the power of the system. This completes initialization of the system.

6.2.4 Operational checks

- (1) Turn ON the power of the system and confirm that the version name and the title window indicate the selected system. Then, confirm that the system starts up normally. If the system does not start up normally, incorrect setting may have been performed during the initialization procedures. Confirm the settings.
- (2) Perform warm-up and test scanning using DCA and confirm that the system operates normally.

6.2.5 Restoring and Setting the site-specific information

6.2.5.1 When version upgrade is performed from V4.30

- (1) Restoring the site-specific information using the backup tool
 - (a) Restore the following items from the media on which the site-specific information was saved before installation of the system software.

To select the items to be restored, double-click the corresponding save date display locations. Each item saved can be displayed and restored individually.

Select [Maintenance Utility] → [Backup Tool] and start the site-specific information backup tool. Restore the items indicated by "●" from the DVD.

- : Must be saved and must be restored after installation
- : Must be saved but must not be restored after installation
- : Need not be saved/Cannot be saved

Some items cannot be restored after the system software version has been upgraded. Follow the procedures described in the installation manual.

	Scan system	Image processing system
1 Exam Plan	●	-
2 Sure IQ	●	-
3 Calibration Data	●	-
4 Filter Coefficients	●	●
5 Preset Default Data	●	●
6 Options for Scan Planning	●	-
7 Error Log	-	-
8 Common Data	○	○
9 Options for Filming	●	●
10 On-line Settings	●	●
11 Left/Right Alignment Values	●	-
12 Voice	●	-

		Scan system	Image processing system
13	Slice Counter	●	—
14	Options for Scano/CT	●	●
15	Detail Parameter Tag Info	—	—
16	Examination Scheduler	●	●
17	Examination List	●	—
18	Serkey Table	○	○
19	Eye catch	●	—
20	Optionkey Info	●	●
21	Option for Display	●	●
22	InnerVision	●	●
23	MPR Pref	●	●
24	ROI Calc Pref	●	●
25	System Setup Utility (User's)	●	●
26	System Setup Utility (Hospital Name)	●	●
27	Study No	●	○
28	Mouse	●	●
29	DICOM Picture Output Tag	—	—
30	Dynamic-Study	—	●
31	Xe-Study	—	●
32	Function Key	●	●
33	Account	●	●
34	Item File	○	○
35	3D Page Preset	—	●
36	Summary Setting	●	●
37	NEW CBP study	—	●
38	Native CFA Preset	—	●
39	Native PlaqueView	—	●
40	Cardio Scoring	—	●
41	Warm Up	○	—

(b) eXam Plan conversion

After the eXam Plan backup data is restored, the data must be converted so that it can be used with V 4.40. Perform the following steps while the CT system is running.

Select [Run...] in the Windows menu and enter "sh -L [Enter]."

Enter the following commands in the Shell window.

```
cd x: [Enter]
epconv -a [Enter]
```

Conversion starts automatically. When the processing is completed, confirm that there are no errors in the result display.

Execute x:/ct/KBProj/develop/bin/scan/tools/ScanofilterConv.exe.

```
x:/ct/KBProj/develop/bin/scan/tools/ScanofilterConv.exe [Enter]
```

(c) Converting the file system management information

```
cd x: [Enter]
/toshiba/system_util/FmCnv.exe [Enter]
```

(d) After the site-specific information has been restored at both the S-con and D-con, shut down and then reboot the system.

(2) Restoring the settings for ① Station

Restore the settings that were written down in subsection 6.1.1.3 (3).

(3) Updating the series sort information and NEMA to DICOM conversion-setting information

If the online settings are restored in the work for restoring the site-specific information in 6.2.5.1 (1), the following work must be performed.

Overwrite the following two files that were backed up in subsection 6.2.5.1 (1) to the original folder.

```
x:/toshiba/system_data/file_utility/sortkey_data
```

```
x:/ct/KBProj/develop/toshiba/program_data/etc/dicom/NEMAtoDICOM
```

After these files are copied, the series sort information settings cannot be restored. Therefore, perform the following steps.

- If there are files that have been edited directly in subsection 6.1.1.3 (1) and (2), once again restore the settings that were written down beforehand.
- Display the image directory of the DVD-RAM and set the sort settings in the hierarchical structures of studies and images to the settings that were written down in subsection 6.1.1.3 (1).

After the settings have been changed, reboot the system.

(4) Restoring Detail Parameter Tag Info

Set the contents recorded in subsection 6.1.1.3 (4).

Select [Utility] → [eXam Plan] → [Customize] → [Edit Main] to perform setting.

Since items have been added, consult with the operator regarding the display items.

6.2.5.2 When version upgrade is performed from V4.40*R000, V4.40*R001, V4.40*R002, or V4.40*R003

(1) Restoring the site-specific information using the backup tool

- (a) Restore the following items from the media on which the site-specific information was saved before installation of the system software.

To select the items to be restored, double-click the corresponding save date display locations. Each item saved can be displayed and restored individually.

Select [Maintenance Utility] → [Backup Tool] and start the site-specific information backup tool. Restore the items indicated by "●" from the DVD.

- : Must be saved and must be restored after installation
- : Must be saved but must not be restored after installation
- : Need not be saved/Cannot be saved

Some items cannot be restored after the system software version has been upgraded. Follow the procedures described in the installation manual.

	Scan system	Image processing system
1 Exam Plan	●	-
2 Sure IQ	●	-
3 Calibration Data	●	-
4 Filter Coefficients	●	●
5 Preset Default Data	●	●
6 Options for Scan Planning	●	-
7 Error Log	-	-
8 Common Data	○	○
9 Options for Filming	●	●
10 On-line Settings	●	●
11 Left/Right Alignment Values	●	-
12 Voice	●	-

		Scan system	Image processing system
13	Slice Counter	●	—
14	Options for Scano/CT	●	●
15	Detail Parameter Tag Info	●	●
16	Examination Scheduler	●	●
17	Examination List	●	—
18	Serkey Table	●	●
19	Eye catch	●	—
20	Optionkey Info	●	●
21	Option for Display	●	●
22	InnerVision	●	●
23	MPR Pref	●	●
24	ROI Calc Pref	●	●
25	System Setup Utility (User's)	●	●
26	System Setup Utility (Hospital Name)	●	●
27	Study No	●	○
28	Mouse	●	●
29	DICOM Picture Output Tag	—	—
30	Dynamic-Study	—	●
31	Xe-Study	—	●
32	Function Key	●	●
33	Account	●	●
34	Item File	○	○
35	3D Page Preset	—	●
36	Summary Setting	●	●
37	NEW CBP study	—	●
38	Native CFA Preset	—	●
39	Native PlaqueView	—	●
40	Cardio Scoring	—	●
41	Warm Up	○	—

- (b) eXam Plan conversion (when the version upgrade is performed from V4.40*R000)

After the eXam Plan backup data is restored, the data must be converted so that it can be used with V4.40. Perform the following steps while the CT system is running.

Select [Run...] in the Windows menu and enter "**sh -L [Enter]**".

Enter the following commands in the Shell window.

cd x: [Enter]
epconv -a [Enter]

* This operation is not required when the version upgrade is performed from V4.40*R001, V4.40*R002, or V4.40*R003.

- (c) Converting the file system management information

cd x: [Enter]
/toshiba/system_util/FmCnv.exe [Enter]

- (d) After the site-specific information has been restored at both the S-con and D-con, shut down and then reboot the system.

- (2) Restoring the settings for ① Station

Restore the settings that were written down in subsection 6.1.2.3 (1).

6.2.6 Operational checks

- (1) Perform test scanning with arbitrary conditions and confirm that the system operates normally.
- (2) Execute several eXam Plans used by the customer and confirm that the system operates normally.

7. APPENDIX

7.1 List of Newly Added Items

No.	Items	Content	Remarks
1	eExam Plan	vHP (CHVH-001A) has been applied.	
2	eExam Plan	Wide mode has been added for dynamic volume scan.	
3	eExam Plan	Phase Navi has been applied for volume scan reconstruction and dynamic volume scan reconstruction.	
4	eExam Plan	A simplified TDC function that enables CT number display during scanning has been added.	
5	Clinical applications	Colon View (CSCV-001A) has been applied.	
6	Clinical applications	Acute Perfusion of Neuro Package (CSNP-001A, -002A) has been applied.	
7	Clinical applications	Fat Index View (CSFM-001A) has been applied.	
8	File system	Raw Data Storage System (CRRS-010A) has been applied.	
9	Windows security patch	Windows security patch program KB958644 (MS08-067) is applied.	
10	Fat Index View	The Erase function is added in Fat Index View.	
11	eExam Plan	0.5 mm × 4 row acquisition (MUSCOT reconstruction) is added.	

7.2 List of Improved Items

No.	Items	Content	Remarks
1	eExam Plan	The function for specifying the order for each scan in PGP/Splitcase has been added.	
2	3D/MPR	The number of images that can be read at one time has been increased to 6000 images.	
3	Other	Clicking the tube heat icon on the scan page starts up the urgent warm-up function.	
4	eExam Plan	The DoseGuard function has been deleted and the exposure tab that can be used to refer to the exposure information has been added.	
5	3D/MPR	The 4D image display/storage functions have been added to the FlyThrough software.	
6	3D/MPR	The panoramic curve preset function has been added to the Dental software.	
7	3D/MPR	The function for selecting cross-cut images to be stored has been added.	
8	eExam Plan	The scan time (such as 40 s) after SureStart can be entered.	Improvement to V4.30*R003
9	3D, clinical cases	A group of volumes for which subtraction was performed can be read in 4D.	Improvement to V4.30*R003

No.	Items	Content	Remarks
10	4D-DSA	4D-DSA no longer terminates abnormally when the Close button is clicked after 4D-DSA is performed.	Improvement to V4.30*R003
11	eExam Plan	If the range for W-Volume is expanded, the range for generating multiview axial images changes accordingly.	Improvement to V4.30*R003
12	eExam Plan	An XC error no longer occurs if Modulation scan and Prospective scan are performed consecutively in ECG-gated scan.	Improvement to V4.30*R003
13	Raw data processing	The R wave can be recognized and processed even if the R wave is located at the beginning of the waveform data.	Improvement to V4.30*R003
14	eExam Plan	In ECG-gated volume scan, scanning is performed for the specified number of beats even if the scan start timing overlaps the R wave.	Improvement to V4.30*R003
15	Raw data processing	In W-Volume scan, even if the ECG waveform of the raw data obtained first in Wide mode is edited, the waveform of the raw data obtained second in Wide mode can be displayed.	Improvement to V4.30*R003
16	Time Averaging	In Time Averaging processing, an abnormality no longer occurs in writing of the related information. (The FSYS error does not occur.)	Improvement to V4.30*R003
17	eExam Plan	CE editing cannot be performed during display of the injector synchronization pause time input window.	Improvement to V4.30*R003
18	eExam Plan	The scan sequences can be processed normally if the Skip button is clicked immediately after helical scanning is completed.	Improvement to V4.30*R003
19	eExam Plan	The system software no longer hangs up if an abnormality occurs in the RDD hardware when an eExam Plan is selected.	Improvement to V4.40*R000
20	eExam Plan	In image save for three-plane fluoroscopy, the three planes can be saved correctly.	Improvement to V4.30*R003
21	eExam Plan	The system software has been modified so that the position of an ROI for magnified reconstruction is displayed correctly even for raw data for which the patient position was changed.	
22	Image transfer	The system software has been modified so that the Japanese anatomical region name is no longer incorrectly entered in the DICOM transfer data tag (0018,0015).	
23	Service tool	The Disp. Status is added so that the settings for special configurations can be checked.	
24	2D/MPR/3D	Processing is performed normally even if the currently displayed window is switched to 2D display after MPR images are displayed and then deleted.	Improvement to V4.40*R000
25	Brain subtraction	In brain subtraction, the number of images that can be specified is 640 images.	Improvement to V4.40*R000

No.	Items	Content	Remarks
26	eExam Plan	The system software has been modified so that Urgent Recon. is set correctly in the Axial-2 to Axial-4 tabs under the Reconstruction tab in S&S and S&V scans.	Improvement to V4.40*R000
27	eExam Plan	The system software has been modified so that reconstruction is performed for the next scan even if helical skip is performed during helical scanning that is divided by the breath control function.	Improvement to V4.40*R000
28	eExam Plan	The system software has been modified so that the RT is displayed correctly for the second and subsequent lines of dy-volume scan.	Improvement to V4.40*R002
29	eExam Plan	The system software has been modified so that a couch position error is no longer displayed before scanning in the second and subsequent lines of the scan.	Improvement to V4.40*R002
30	Raw data processing	Even if a raw data image is modified, the D-FOV and reconstruction center for zooming reconstruction are not changed accordingly.	Improvement to V4.40*R002
31	Reconstruction	Even if reconstruction is performed with BHC when the FOV is set to LL, artifacts no longer occur.	Improvement to V4.30*R003
32	eExam Plan	The system software has been modified so that images are generated in the specified direction in multiview image generation.	
33	eExam Plan	The system software has been modified so that a large font is no longer used for the exposure dose displayed in the summary section when Sure Exposure 3D is used.	Improvement to V4.30*R003
34	File system	The system software has been modified so that 4D volume can be registered to a DVD normally.	
35	File system	The system software has been modified so that image registration can be performed during scanning even when a large number is used for the study ID.	Improvement to V4.40*R000

7.3 Items Related to Image Quality

No.	Items	Content	Remarks
1	eExam Plan and raw data processing	The applicable conditions for zebra correction have been reviewed in order to improve image quality. Although correction was always applied in helical scanning with a beam pitch greater than 1.0, correction is performed only for volume registration images in this version.	
2	Calibration	Acquired air calibration data (which was previously acquired for each rotation speed) is used in common for 4 rotation speeds to reduce the acquisition time. (The acquisition time for air calibration is roughly less than half that for conventional systems.)	
3	eExam Plan and raw data processing	The BHC parameters for 80 kV have been improved.	

7.4 Device IDs of the Image Disks Used in the PC BOX for Aquilion ONE Systems

7.4.1 Outline

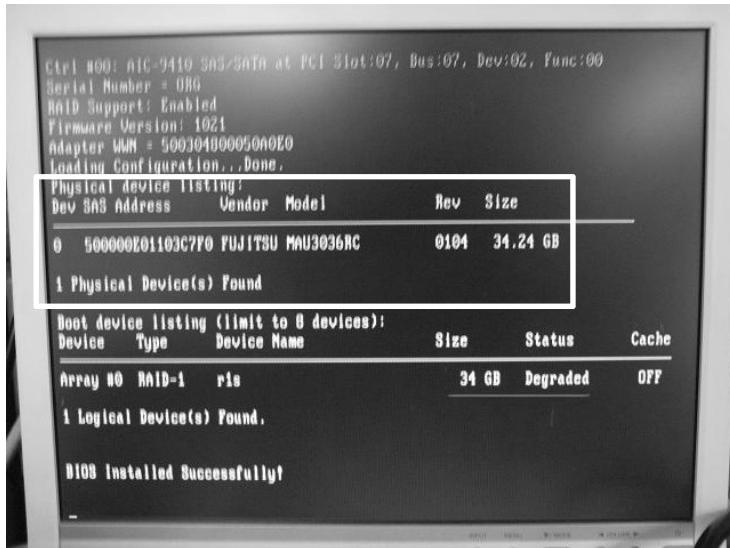
The BIOS is changed due to updating of the system software. As a result, the device IDs of the image disks used in the PC BOX are switched.

Device ID display		
System software version	V4.30*R002 or earlier	V4.30*R003 or later
BIOS version of the SAS controller	BIOS 1822	BIOS 1951
Cable label: HDD2	Dev. 0	Dev. 1
Cable label: HDD3	Dev. 1	Dev. 0

If an image disk in the PC BOX malfunctions at the site, check the BIOS version of the SAS controller and the device ID of the image disk and replace the image disk by following the procedures below.

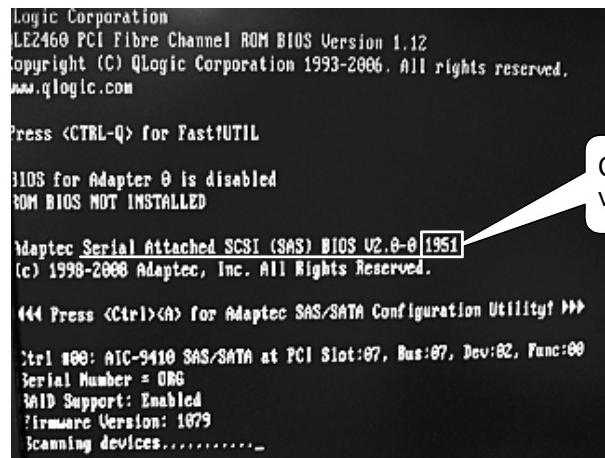
7.4.2 Replacement procedure for the image disk

- (1) If an abnormality occurs in an HDD, the RAID BIOS window shown in the figure below is displayed and only the HDDs that are recognized are displayed. In this status, "Degraded" is displayed as the status of the RAID array.

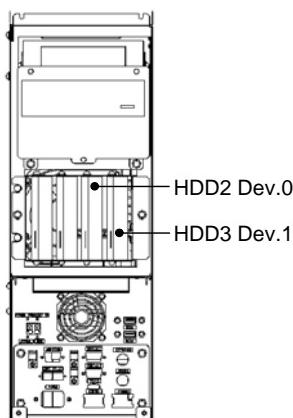


* The figure above may differ slightly from the actual window display.

- (2) Confirm the BIOS version of the SAS controller in the window below.



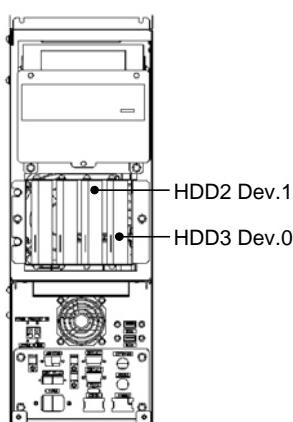
When the BIOS version is "1822" in the above window, the relationship between the device ID of the SAS disk and the cable label is as follows.



Cable label	Device ID of the image disk
HDD2	Dev. 0
HDD3	Dev. 1

PC image disk
(BIOS version: 1822)

When the BIOS version is "1951" in the above window, the relationship between the device ID of the SAS disk and the cable label is as follows.



Cable label	Device ID of the image disk
HDD2	Dev. 1
HDD3	Dev. 0

PC image disk
(BIOS version: 1951)

If the disk connected to Dev. 1 malfunctions, only Dev. 0 is displayed.



The figure on the left may differ slightly from the actual window display.

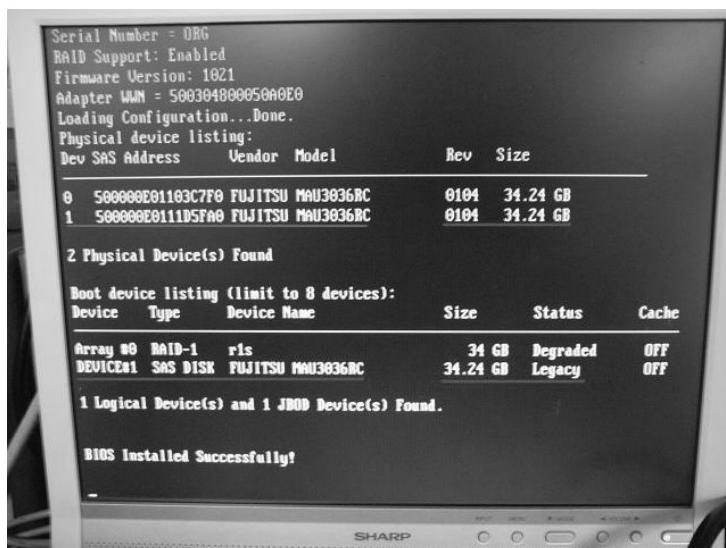
Replace the disk that is not displayed in the window.

<When the Div. 1 disk malfunctions>

BIOS 1822 : Replace the disk connected to HDD3.

BIOS 1951 : Replace the disk connected to HDD2.

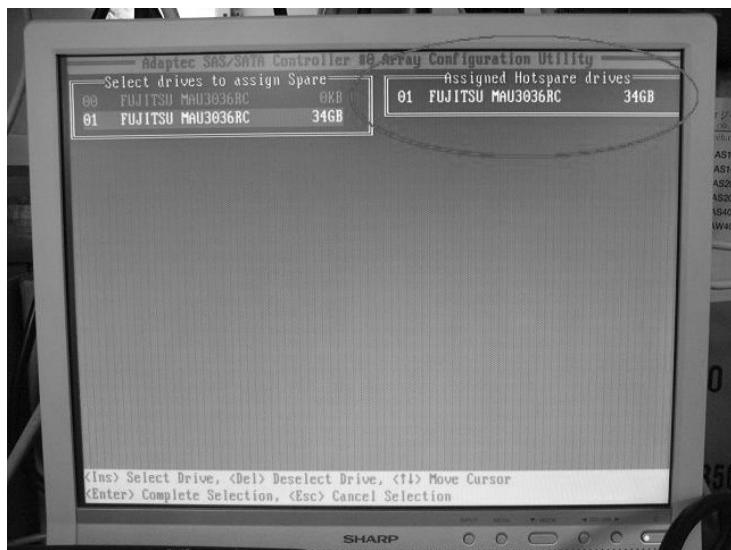
- (3) Shut down the system and turn OFF the power of the console.
- (4) Replace the SAS HDD.
- (5) After replacement of the HDD, confirm that the new HDD is recognized in the RAID BIOS window.
When the new HDD is recognized normally, "Dev:0" and "Dev:1" are displayed in the window.
In addition, the message "DEVICE#x (omitted) Legacy" is displayed in the array information field.



* The figure above may differ slightly from the actual window display.

If the HDD is not recognized, check the cable connection again.

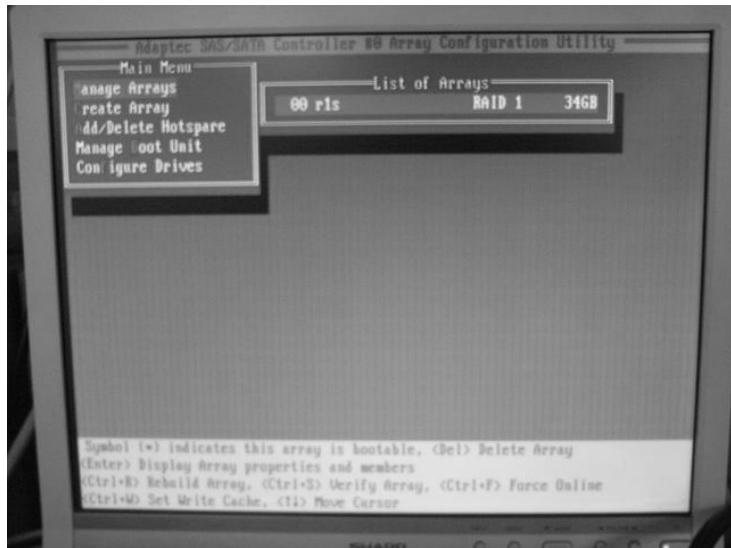
- (6) When the RAID BIOS window is displayed, press the [Ctrl] key and the [A] key simultaneously to enter the RAID BIOS setting window.
- (7) Select "Array Configuration Utility" in the RAID BIOS and press the [Enter] key.
- (8) Select "Add/Delete Hotspare" from the Main Menu and press the [Enter] key.
- (9) When the window is switched, select the HDD displayed in white and press the [Ins] key.
- (10) Confirm that the new HDD has been added in "Assigned Hotspare drives" and press the [Enter] key.



* The figure above may differ slightly from the actual window display.

- (11) A confirmation message is displayed. Press the [Y] key.
- (12) The confirmation message "Partition table and Boot Block are deleted." is displayed. Press the [Y] key.
- (13) Return to the Main menu, select "Manage Arrays", and press the [Enter] key.

- (14) When "List of Arrays" is displayed, press the [Ctrl] key and the [R] key simultaneously.



* The figure above may differ slightly from the actual window display.

- (15) Rebuild processing is started. Wait until the completion percentage reaches 100%.
- (16) When 100% is reached, the completion message is displayed.
Then, the "Array Status" is changed to "Optimal".
- (17) Press the [Esc] key several times (approximately 5 times) and select "Exit" in the last confirmation window. Then, press the [Enter] key.
- (18) RAID BIOS is terminated and the system is rebooted.
Press the [Delete] key to display the BIOS window.
- (19) Turn OFF the power of the system.
The replacement work is now completed. It is not necessary to perform BIOS settings.